



A Product of Archer Company USA, Inc.

The Most Advanced
Technology

Non-Explosive Controlled Demolition Agent ***By providing silent expansive cracking***

**For Demolition, Reinforced Concrete Cutting, Excavating,
Rock Breaking, Stone Quarrying, Mining and More ...**



HIGHLIGHTS

- Amazing 18,000 PSI expansive strength when mixed with common water.
- Easy to use, just mix with water, pour into holes, then it expands.
- Cracks reinforced concrete, granite, marble, limestone, flagstone and onyx safely and quietly.
- An alternative to blasting, diamond blade saw, hydraulic breaker and jackhammer, which is safer, more efficient, works without noise, vibration, dust by providing silent expansive cracking.
- No special permit, insurance, training or equipment needed.

CONTENTS:

	Page
Introduction	2
Job Photos	
♦ <u>Demolition & Reinforced Concrete Cutting</u>	3
♦ <u>Rock Breaking & Excavating</u>	7
♦ <u>Quarrying</u> Granite, Marble, Limestone, Onyx	9
♦ Underwater Demolition	11
Usage Instruction	12
Drilling Design	15
Material Safety Information	Back

Archer Company USA Inc is the manufacturer of Dexpan®

Toll-Free: 1-866-272-4378

Web: www.Dexpan.com

Tel: +1-575-874-9188 (USA)



Non-Explosive Controlled Demolition Agent
By providing silent expansive cracking

For Demolition, Reinforced Concrete Cutting, Excavating, Rock Breaking, Stone Quarrying, Mining and More ...

What is Dexpan®?

Dexpan® is a powder with amazing 18,000 PSI expansive strength when mixed with common water. Poured into holes, **Dexpan®** breaks reinforced concrete & rock safely and quietly, while providing **SILENT** cracking. Since Dexpan® provides controlled demolition according to



*Packing I: 44 lbs box (includes Four 11 lbs bags)
 *Packing II: 11 lbs plastic container

drilling patterns, it is very easy to break reinforced concrete and all kinds of stone into desired sizes and shapes, without noise, vibration or dust.

In demolition, concrete cutting & excavating industry, Dexpan® helps you to break reinforced concrete and rock into chunks, so you may easily cut off rebar, haul it

away with a crane or truck without damage remaining part.

In mining and quarrying industry, Dexpan® helps to achieve perfect slabs and blocks from limestone, onyx, marble, granite or any other type of stone you are working with. Compares to blasting, Dexpan® avoids waste of valuable stone, high insurance, costly storage and labor. Dexpan® can also be applied along with traditional methods like primer cord, hydraulic breaker, diamond blade saw and jackhammer to help cut cost, work time and increase safety, Plus silent operation, Dexpan® is perfect for residential, school and airport area. Dexpan® helps your work to become more efficient and cost effective.

What can Dexpan help you with?



Demolition and Concrete Cutting

- ◆ Demolition of mass reinforced concrete, foundations for machinery, piers, pillars, beams, bridges, retaining walls
- ◆ Partial demolition of various concrete structures
- ◆ Reinforced concrete cutting



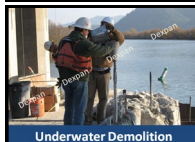
Excavating and Rock Breaking

- ◆ Excavation of rock
- ◆ Splitting of boulders
- ◆ Rock and slab breaking for road expansion
 - ◆ For resident development
- ◆ Excavation associated with tunneling
 - ◆ Trenching shaft sinking
- ◆ For various types of construction work



Stone Quarrying and Dimension

- ◆ Non-Explosive limestone, onyx, marble, granite quarrying
- ◆ Controlled expansive cracking to avoid waste of Valuable stone



Types of Dexpan® (Depending on temperature)

- Dexpan® I** 77 to 104 F° (25 to 40 C°)
- Dexpan® II** 50 to 77 F° (10 to 25 C°)
- Dexpan® III** 23 to 50 F° (-5 to 10 C°)



*Non-Explosive Controlled Demolition Agent
By providing silent expansive cracking*

**For Demolition, Reinforced Concrete Cutting, Excavating,
Rock Breaking, Stone Quarrying, Mining and More ...**

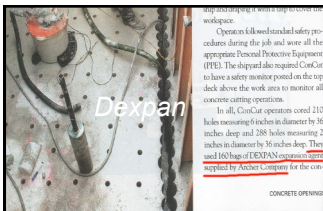
Non-Explosive Demolition of Highway Bridge Piers

At Biggs Army Airfield, El Paso, Texas United States 2007



Ferry Concrete Ballast Removal

Concrete Opening Magazine, United States 2006

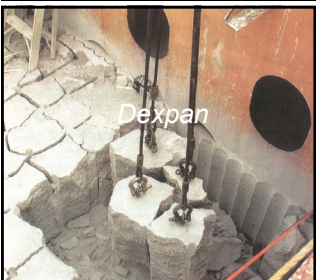


slip and hanging it with a tarp to cover the workspace.

Operator followed standard safety procedures during the job and wore all the appropriate Personal Protective Equipment (PPE). The shipyard also required ConCut to have a safety monitor posted on the top deck above the work area to monitor all concrete cutting operations.

In all, ConCut operators cored 2112 holes measuring 6 inches in diameter by 36 inches deep and 288 holes measuring 2 inches in diameter by 36 inches deep. They used 160 bags of DEXPAN expansion agent supplied by Archer Company for the con-

CONCRETE OPENINGS





*Non-Explosive Controlled Demolition Agent
By providing silent expansive cracking*

**For Demolition, Reinforced Concrete Cutting, Excavating,
Rock Breaking, Stone Quarrying, Mining and More ...**

Noiseless Concrete Breaking in Residential Area

West Virginia, United States 2003



Demolition of Street Light Posts

New Mexico, United States 2008





*Non-Explosive Controlled Demolition Agent
By providing silent expansive cracking*

**For Demolition, Reinforced Concrete Cutting, Excavating,
Rock Breaking, Stone Quarrying, Mining and More ...**

Demolition of Reinforced Concrete Foundations

United States 2004

These concrete bases were heavily reinforced with rebar.



This base was 4' wide x 7'3" long x 2' high. Reinforced with rebar. Look at the great results of Dexpan.



This motor base was 3' x 3' x 3', with a few holes and Dexpan. It came apart in short order.



This base is 7'3" on the long sides and 4'7" wide and 10" high. It had 3 mats of #6 rebar with dowels every 12" around the perimeter. Take note of the heaving in the center of the base. Approximately 1 1/2 cases of Dexpan were used. The holes were drilled in 12" deep.



This is a side view showing the first of 4 layers of rebar in this base. These are #6 rebar (3/4" diameter). The dowels coming out of the footing are #8 rebar (1" diameter). They are not shown in this photo.



Swimming Pool Demolition

United States 2005





*Non-Explosive Controlled Demolition Agent
By providing silent expansive cracking*

**For Demolition, Reinforced Concrete Cutting, Excavating,
Rock Breaking, Stone Quarrying, Mining and More ...**

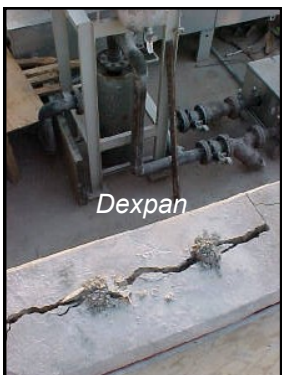
Non-Explosive Demolition of a School Stadium

Dallas, Texas United States 2002



Controlled Demolition of Reinforced Concrete Wall that close to pumps and pipes

New York, United States 2003



The need for DEXPAN on this job was in an area where no pneumatic dust or noise was allowed and it was an area with pumps, the area was not accessible for machines.



*Non-Explosive Controlled Demolition Agent
By providing silent expansive cracking*

**For Demolition, Reinforced Concrete Cutting, Excavating,
Rock Breaking, Stone Quarrying, Mining and More ...**

Non-Explosive Rock Blasting, Breaking & Excavation

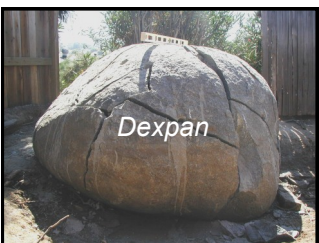
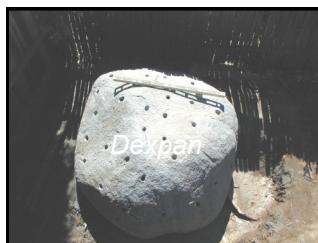
United States 2004



"Today we worked on an area that required non-explosive rock excavation in the area of the north courtyard. We drilled a large area of what appeared to be pinnacle or bed rock. The rock being very steeply sloped and irregular it is hard to be extremely accurate on yards, but the holes (varying from 6 to 10 feet) are easily measured. We drilled the rock on an 18" pattern. We used (39) 11-pound bags (429 lbs.) of Dexpan to fill 183.83 lineal feet of hole today. 1 track-mounted drill w/ operator worked 7 hrs. and 6 men worked approximately 2.5 hrs. to perform the necessary operations. An air compressor was also used to clean rock surface and holes before filling. Jessie Scarborough from S&ME was on site monitoring operations."

Granite Boulder Breaking

United States 2004



*Archer Company USA Inc is the manufacturer of DEXPAN.

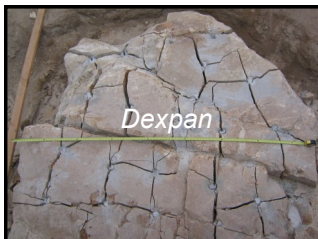


*Non-Explosive Controlled Demolition Agent
By providing silent expansive cracking*

**For Demolition, Reinforced Concrete Cutting, Excavating,
Rock Breaking, Stone Quarrying, Mining and More ...**

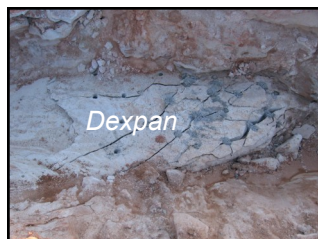
Rock Breaking for Swimming Pool Project

United States 2004



Rock Trenching and Excavating

United States 2008





*Non-Explosive Controlled Demolition Agent
By providing silent expansive cracking*

**For Demolition, Reinforced Concrete Cutting, Excavating,
Rock Breaking, Stone Quarrying, Mining and More ...**

Non-Explosive Limestone Quarrying

Missouri, United States 2004



Non-Explosive Granite Quarrying

Idaho, United States 2004



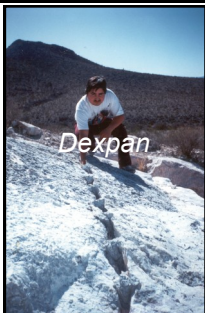
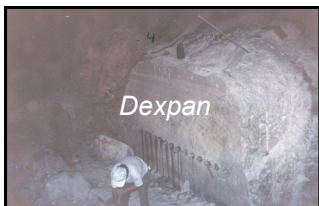


*Non-Explosive Controlled Demolition Agent
By providing silent expansive cracking*

**For Demolition, Reinforced Concrete Cutting, Excavating,
Rock Breaking, Stone Quarrying, Mining and More ...**

Non-Explosive Marble Quarrying

Torréon, Mexico 1995



Non-Explosive Sandstone Quarrying



**Dexpan is Perfect for
controlled mining and
quarrying to avoid waste
of valuable stone
and to work safer.**

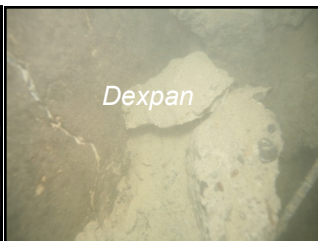


*Non-Explosive Controlled Demolition Agent
By providing silent expansive cracking*

**For Demolition, Reinforced Concrete Cutting, Excavating,
Rock Breaking, Stone Quarrying, Mining and More ...**

***Underwater Demolition of Bridge Piers**

United States 2007 *Used plastic tubing to keep Dexpan from water.



***Underwater Rock Breaking**

Cancun, Mexico 2007 *Used plastic tubing to keep Dexpan from water.





Please **ALWAYS** wear



Usage Instruction

Rubber Gloves Safety Glasses Dust Mask

3 Easy Steps to **SUCCEED**: Drill, Mix & Fill

1) **Drilling** **Please call for applications with depths less than 6 inch..*

- Drill holes using a hammer drill and appropriate drill bit specific to the rock or concrete type. (Diagram 1)
- Holes should be drilled no further than **1 ft** (30 cm) apart. Note: In reinforced concrete recommended no more than 8 in (20 cm) apart.
- Recommended hole diameter is **1.5 in** (3.8 cm), not to exceed 2 in (5 cm). Drill holes should be 80-90% of the depth, do not go through.

2) **Mixing**

- In a flat bottom bucket, combine **0.4 gallon** (1.5 liter) of water with one 11 lb. (5 kg.) bag of Dexpan[®]. (Diagram 2)
- Mix well (a drill and paddle is recommended). If mixing with a stick or other method, make sure Dexpan[®] is completely dissolved into the water. Mix to a slurry.

3) **Filling**

- Clean holes before filling. Using an air hose to remove excess dust from drilling.
- Dexpan[®] slurry should be poured into holes within 10-15 minutes after mixing. Do not fill to the top, only fill the holes about 1/2 to 1 inch (2.5 cm) from the top.
- Pour well mixed Dexpan[®] slurry into holes. Agitating the Dexpan[®] in the hole to make sure no air is trapped in holes. Suggestion: Use a rod or stick to poke holes. (Diagram 3)
- A grout pump might be required to fill horizontal holes. Caps might be needed for horizontal holes, but only necessary to hold Dexpan[®] in the holes.

Coverage: Normally one 44 lb. (20 kg.) box of Dexpan[®] can fill up to 35 lineal feet (10 m) of 1.5 inches (3.8 cm) diameter holes. You might not have to fill every hole depending on application.

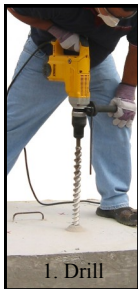
Cracking Or Cutting Time: Properly mixed, the cracks may appear after 2 hours of filling drilled holes, depending on ambient temperature, humidity, rock or concrete hardness. Give it 24 hours for best results.

CAUTIONS:

- Read safety and operation instruction **CAREFULLY**.
- A pair of safety glasses, rubber gloves and a dust mask is required. Avoid eyes, skin contact. Do not breathe dust.
- **DO NOT** look directly into filled holes as **BLOWOUTS** may occur.
- Keep Dexpan[®] in **DRY** storage. Seal container after use.
- Select the correct type of Dexpan[®] for your temperature range.

MSDS (Material Safety Data Sheet)
and Limited Warranty
are available at
www.Dexpan.com

For technical support
Please call our Toll-Free
1-866-272-4378 or
575-874-9188 (USA)



1. Drill



2. Mix



3. Pour



Non-Explosive Controlled Demolition Agent
By providing silent expansive cracking

**For Demolition, Reinforced Concrete Cutting, Excavating,
Rock Breaking, Stone Quarrying, Mining and More ...**

Limited Warranty

- For best results, drilling and mixing are critical to Dexpan®. First time users are highly recommended to call our FREE technical support group before use (Tel: 575-874-9188).
- All products of Archer Company USA (DBA Dexpan USA) are warranted to be free from defects in materials or workmanship for one year from the date of purchase.
- Within this period, Archer (Dexpan) will, at its sole option, replace any products that fail in proper and normal use. Such replacement will be made at no charge to the customer, provided that the customer shall be responsible for any transportation cost.
- This warranty does not cover failures due to abuse, misuse, accident, or unauthorized alterations. Always follow safety precautions and usage instruction on our website.
- Written description of problem and supporting job photos are necessary to warrant this claimer.

Disclaimer

- Dexpan® may be used to break concrete including reinforced concrete, rocks including limestone, granite, marble, onyx, and flagstone. Call before you try on other material. (i.e. porous or decomposed rocks.)
- Breakage or cracks vary due to drilling pattern done by customer. Archer (Dexpan) is not responsible for any unexpected results.
- Cracking Time is not guaranteed. Allow at least 24 hours for complete set time. Archer (Dexpan) is not responsible for any job delay lost.

Procedure for Claims under Limited Warranty

Archer (Dexpan) will help customer to resolve the problem:

- In the event Dexpan® does not work, allow an extra 48 hours. If it fails after 48 hours, contact technical support before you try other means. Do not remove Dexpan® from holes. This may void the warranty if the Dexpan® is removed.
- Take photos showing job was done according to proper procedures. A written description showing purpose of the job, dimensions, drilling patterns, depth of holes, water mixing rate, weather and temperature. Both description and job photos are necessary to obtain warranty service.
- Archer (Dexpan) gives customer an analysis report showing what could be the problem. Onsite technical support may be requested for larger projects.
- Archer (Dexpan) will honor this warranty based on the evidence provided and approval.

Video 1: What is Dexpan?



Video 2: How to use Dexpan?





Non-Explosive Controlled Demolition Agent
By providing silent expansive cracking

**For Demolition, Reinforced Concrete Cutting, Excavating,
Rock Breaking, Stone Quarrying, Mining and More ...**

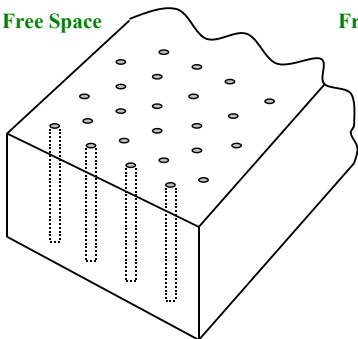
Usage Tips: (call 866-272-4378 if you have any questions)

- **Well Designed Hole Drilling Pattern** will minimize consumption of Dexpan® by cutting into desired sizes.
- To insure success, Dexpan® needs **FREE SPACE** to expand to.
- For better results, it is important to note both air and material temperature. Material temperature is the temperature inside of the rock or concrete which can be different from the air temperature.
- In summer, the best time to use Dexpan® is in the evening when material temperature is cool.
- In summer, cover holes from direct sunlight to avoid blow-out. Example: using a tarp or damp hay to provide shade.
- If Dexpan® *completely* dries into powder and did *NOT* crack, pour additional water onto Dexpan® filled holes.

Hole Drilling Designs:

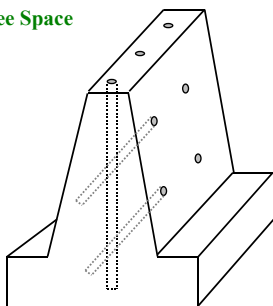
Objects have Free Space for Dexpan to Expand to:

Free Space



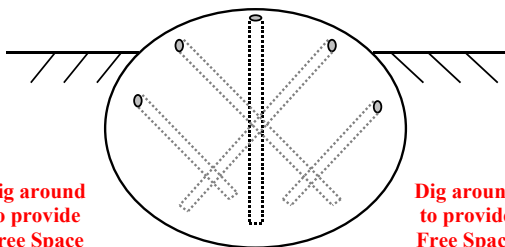
Drill Holes vertically for
Regular shapes

Free Space



Drill Holes at an angle for
Irregular shapes

Objects DO NOT have Free Space for Dexpan to Expand to:



Underground rock
Excavation



Hole filled with DEXPAN

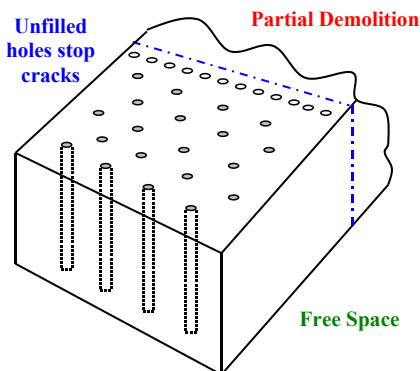


Empty Hole

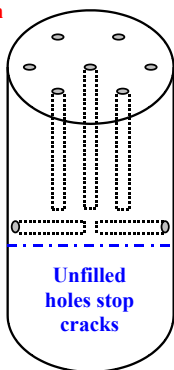


Desired cutting line

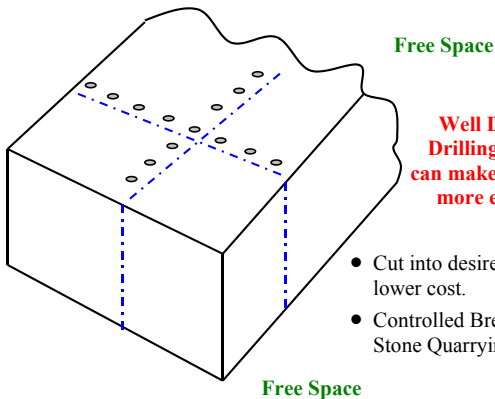
**For Demolition, Reinforced Concrete Cutting, Excavating,
Rock Breaking, Stone Quarrying, Mining and More ...**



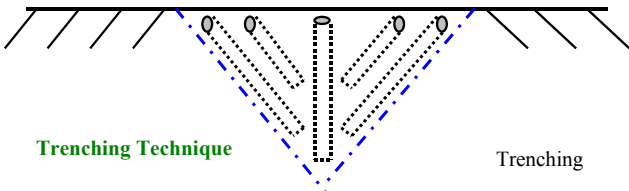
Partial Demolition with
Vertical desired cutting line



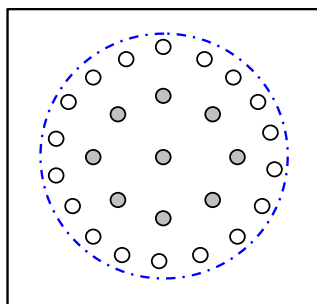
Partial Demolition with
Horizontal desired cutting line



- Cut into desired size to lower cost.
- Controlled Breaking for Stone Quarrying.



Tunneling Technique



Unfilled holes provide Free Space

Tunneling



Non-Explosive Controlled Demolition Agent
By providing silent expansive cracking

**For Demolition, Reinforced Concrete Cutting, Excavating,
Rock Breaking, Stone Quarrying, Mining and More ...**

Brief Material Safety Information

Conforms to ANSI Z400.1-2004 Standard (United States, Canada, Mexico)

Complete MSDS, Usage Instruction and Warranty are available at www.Dexpan.com

Warning: Irritating Material, Hazardous to Humans and Domestic Animals



CAUSES EYE AND SKIN IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Use only with adequate ventilation. Keep container tightly closed and sealed until ready to use. Wash thoroughly after handling.

Composition / Information on ingredients:

Name	CAS number	%
Calcium Hydroxide	1305-62-0	60-100
Silica, Vitreous	60676-86-0	5-10
Diiron Trioxide	1309-37-1	1-5
Aluminum Oxide	1344-28-1	1-5

First Aid +

Eye or Skin Contact: Immediately flush eyes or skin with plenty of water for at least 20 minutes. Get medical attention.

Inhalation: Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention.

Ingestion: Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Environmental Precautions

NO KNOWN significant effects or critical hazards.

The product itself and its products of degradation are NOT toxic.

Storage and Waste Disposal

Keep container tightly closed. Keep DRY in storage. Keep out of reach of children and pets.

The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains and sewers.

Visit Dexpan® at Trade Shows



National Demolition
Association



World of Concrete



International Society of
Explosives
Engineers



StonExpo

Toll-Free **1-866-272-4378** or **+1-575-874-9188** (USA)

Web: www.Dexpan.com